

REMARKS

In the Office Action, claims 20 and 22 were rejected under 35 U.S.C. §112 as being indefinite. Claims 17-22, 26-33 were rejected under 35 U.S.C. §103(a) being unpatentable over Lawes et al., U.S. Patent No. 5,080,675 in view of Rhenter et al., U.S Patent No. 4,878,916.

In this response, claims 17, 20, 22 and 33 have been amended. Claims 26 and 32 have been cancelled. Claims 1-25, 27-31, and 33 remain pending in this application.

Reconsideration of the application in view of the amendments and following remarks is respectfully requested.

Rejections to claims 20 and 22 under 35 U.S.C. §112:

Claims 20 and 22 were rejected under 35 U.S.C. §112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.

Applicants have amended claims 20 and 22 to more clearly define the external force recited therein. Support for the changes to claims 20 and 22 is found in the specification, for example at paragraph [0012].

Withdrawal of the rejections to claims 20 and 22 were rejected under 35 U.S.C. §112 is respectfully requested.

Rejections to claims 17-22, 26-33 under 35 U.S.C. §103(a):

Claims 17-22, 26-33 were rejected under 35 U.S.C. §103(a) being unpatentable over Lawes et al., U.S. Patent No. 5,080,675 in view of Rhenter et al., U.S Patent No. 4,878,916.

Lawes discloses a tibial component for a replacement knee prosthesis that includes a tibial tray for connection to a suitably prepared tibia. The tray includes fixed lateral and medial condylar bearing components wherein only the medial component has a shock absorber located beneath it.

Rhenter, which is described in paragraph [0002] of the present application, describes an artificial joint having a rotation-symmetrical joint plateau and a socket-shaped joint overlay, which are connected to each other by means of a shrinkage connection. The joint overlay has an

overdimension in the joint plateau at the body temperature of the patient, as a result of which it can only be inserted into the recess by virtue of a temperature difference in comparison to the body temperature of the patient.

Independent claims 17 and 33 have been amended in each case to include the features of dependent claims 26 and 32.

Independent claim 17 recites an artificial joint for a patient that includes the following features:

a joint plateau having a recess including a first dimension; and
a joint overlay having a projection corresponding to the recess and a second dimension, the second dimension being larger than the first dimension at a body temperature of the patient,

wherein the projection is insertable into the recess by virtue of a temperature difference of at least one of the projection and the recess with respect to the body temperature, a contact area being formed between the projection and the recess at the body temperature, and

wherein at least one of the second dimension and the contact area is determined such that fixation forces exerted on the projection at the body temperature create a state of stress in at least one of the joint overlay and the joint plateau, the state of stress improving at least one of a load-bearing capacity and a durability of the artificial joint,

wherein the recess has an undercut positively affixing the projection, the undercut being determined by at least one of a contour and a topography of the joint overlay, and

wherein the contact area encircles the projection and is continuous.

Support for the amendments to claims 17 and 33 is found in claims 26 and 32 as well as in the specification, for example at paragraphs [0018] and [0030], which describes that undercut 10 is formed as a function of the slanted arrangement of the contact area of the recess 6, which brings about a positive fixation of the projection 5 in the recess 6 and furthermore that the undercut enables an optimization of the distribution of stress in the joint.

Applicants respectfully submit that Lawes et al. does not suggest the features of an undercut positively affixing the projection or a contact area that encircles the projection and is continuous,

and that a person of ordinary skill in the art would not have combined the teachings of Lawes et al. with those of Rhentner to arrive at the claimed invention.

Lawes et al. describes an artificial knee joint prosthesis wherein, instead of the projection being positively affixed by the recess, freedom of movement between the parts is intentionally allowed. See column 3, lines 428-48. Consequently, Lawes also does not suggest a continuous contact area that surrounds the projection.

Rhentner, on the other hand, describes an immovable connection of a hip joint prosthesis but does not describe other features recited in claim 17. Applicants respectfully submit that a person of ordinary skill in the art would not have combined the teachings of a moveable connection between two parts of knee joint prostheses in Lawes et al. with an immovable connection between two parts of a hip joint prosthesis. Instead, the person of ordinary skill in the art applying the teaching of a thermal shrinkage connection from Rhentner would at most apply the same teaching to a knee joint prosthesis to obtain an immovable connection, but not, at the same time also include an undercut as recited in claim 17 to enable an improved stress distribution between the two parts.

Independent claim 33 was amended to include the same additional features of claims 26 and 32, as claim 17.

Withdrawal of the rejections to claims 17-22, 26-33 under 35 U.S.C. §103(a) is respectfully requested.

Allowable Subject Matter:

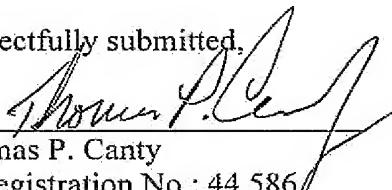
Claims 23-25 were not rejected by the Examiner, and were therefore presumably deemed to be drawn to allowable subject matter.

CONCLUSION

In view of the above amendment, applicant believes the pending application is in condition for allowance.

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Respectfully submitted,

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